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# 2000 Record of Decision

## MIG/DeWane Landfill

### Belvidere, Illinois

The 2000 Record of Decision (ROD) for the MIG/DeWane Landfill documents the Illinois Environmental Protection Agency (Illinois EPA) and U.S. Environmental Protection Agency (U.S. EPA) decision on the final remedy for this site. The agencies made this decision after carefully considering public comments received during a public comment period held from June 11, 1999 to August 27, 1999. The Illinois EPA signed the ROD on March 30, 2000 and the U.S. EPA signed a letter of concurrence on March 31, 2000. THE ROD includes the following requirements:

**Landfill gas management.** As garbage decays in a landfill, it generates methane gas. The ROD requires that up to 15 additional passive gas vents be installed within the interior of the landfill to supplement the existing landfill-gas interception system installed in 1999. These vents can be upgraded to an active system if necessary. The active landfill-gas extraction system will be enhanced if necessary.

**Landfill Cover/Cap.** A multi-component landfill cap and cover system will be constructed and maintained to meet required landfill standards. The purpose of the cap is to minimize the infiltration of rain or other precipitation into the landfill, thus reducing the generation of leachate\* and landfill gases and the movement of contaminants into groundwater, soil and air. The cap will cover the entire landfill. The landfill vegetative cover will be maintained to the maximum extent possible before, during and after construction. Unless the Illinois EPA approves alternate layers, the landfill cover/cap from top to bottom will consist of:

- a vegetative layer of at least six inches over the entire landfill cap,
- a protective 24-inch layer on the crest tapering to a minimum of 18 inches at the toe of the landfill, (the tapering and reduction in the depth of the protective layer is due to engineering problems associated with the closeness of the landfill cap to the property boundaries and physical barriers such as railroad tracks and buried fiber optic cable),
- a drainage layer of synthetic material,
- a low permeability layer of synthetic material or a combination of synthetic material and clay, and
- a subsoil/grading layer of at least 12 inches of compacted soil.

\*Leachate is water that has passed through landfill waste and picked up contaminants present in the waste.



**Storm Water/ Surface Water Management.** A runoff diversion and drainage system will be constructed so that the cap is not eroded. This system will include a drainage ditch around the toe of the landfill and a storm water retention pond.

**Leachate management.** All ponded water and leachate plus a minimum of two feet of sediments will be removed from the leachate surface impoundment. The liquids will be treated and disposed of in an approved manner, and the sediment will be disposed of on-site or in an otherwise approved manner. The empty surface impoundment will then be filled with clean soil. A leachate collection and management system will be installed to replace the leachate surface impoundment.

**Groundwater treatment.** The chosen remedy for groundwater treatment is monitored natural attenuation. Natural attenuation occurs when any of several natural processes takes place in the soil or groundwater to reduce the mass, toxicity, mobility, volume or concentration of contaminants. One example of natural attenuation is when naturally occurring microbes in the soil or groundwater break down contaminants into harmless components. Another example is when contaminants become adsorbed (attached) to soil particles, thus preventing the contaminants from moving into the groundwater. Natural attenuation was chosen for several reasons including:

- Between 10 to 25 feet of low-permeability soil exists between the base of the landfill and the groundwater. The Illinois EPA believes the presence of this soil is reducing the movement of contaminants from the landfill into the groundwater.
- Monitoring well sample results support this belief, because only very low concentrations of contaminants are being detected in monitoring well samples.
- Surface water and sediment samples from the Kishwaukee River show that, although groundwater is flowing toward the river, the surface water and sediments of the river have not been affected by contaminants from the landfill.
- There are no residential drinking water wells in the path of groundwater flow.
- The landfill cap and leachate collection system will result in dramatically reduced groundwater contamination.
- The ROD requires ongoing monitoring to ensure that effective natural attenuation is occurring.

**Institutional controls.** A restriction will be placed on the landfill and the adjacent soil borrow pit area and will be recorded with the Boone County Recorder of Deeds. This restriction will prohibit the following activities on the landfill and soil borrow pit area: construction of buildings, on-site groundwater use, drilling, excavation and any other soil intrusive activities.

**Operation and Maintenance.** The ROD requires an Operation and Maintenance Plan that will cover all aspects of the remedial action including the landfill cap, landfill gas monitoring and groundwater monitoring. The plan must be approved by the Illinois EPA.

**For more information about the ROD,** contact the Illinois EPA community relations coordinator, Virginia Forrer, at 217/785-1269 or email [Virginia.Forrer@epa.state.il.us](mailto:Virginia.Forrer@epa.state.il.us) You may also contact the Illinois EPA project manager, Rick Lanham, at 217/782-9881. His email address is [Rick.Lanham@epa.state.il.us](mailto:Rick.Lanham@epa.state.il.us) The mailing address for both is Illinois EPA, 1021 North Grand Ave., East, P.O. Box 19276, Springfield, IL 62794-9276.